

REMARKS-General

The amended independent claims 21 and 29 incorporate all structural limitations of the original claim 1 and 11 and include further limitations previously brought forth in the disclosure. No new matter has been included. All amended claims 21, 24, 28, 29, 32, and 36 are submitted to be of sufficient clarity and detail to enable a person of average skill in the art to make and use the instant invention, so as to be pursuant to 35 USC 112.

Response to Rejection of Claims 21-36 under 35USC103

The Examiner rejected claims 21-36 over Koo (US 5,234,985) in view of Wey (US 20050061157) and Mager (US 6790273) and further in view of Watanable (US 6,296,943) and/or Andrews (US 20050171253). Pursuant to 35 U.S.C. 103:

“(a) A patent may not be obtained though the invention is **not identically** disclosed or described as set forth in **section 102 of this title**, if the **differences** between the subject matter sought to be patented and the prior art are such that the **subject matter as a whole would have been obvious** at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.”

In view of 35 U.S.C. 103(a), it is apparent that to be qualified as a prior art under 35USC103(a), the prior art must be cited under 35USC102(a)~(g) but the disclosure of the prior art and the invention are not identical and there are one or more differences between the subject matter sought to be patented and the prior art. In addition, such differences between the subject matter sought to be patented **as a whole** and the prior art are obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

In other words, the differences between the subject matter sought to be patent as a whole of the instant invention and Koo which is qualified as primary prior art of the instant invention under 35USC102(b) are obvious in view of Wey, Mager, Watanable, and/or Andrews at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

Accordingly, Koo merely teaches a transparent resin composition containing ceramic material radiating far infrared rays and adapted for forming a food container without any mention of any nano titanium oxide integrated with the transparent resin.

Wey merely teaches a beverage energizing stick comprising a sheet-like carrier carrying a far infrared ray and affixing to an outer surface of beverage serving container without any mention of any nano titanium oxide carried by the sheet-like carrier.

Mager, on the other hand, merely teaches a composition comprising inorganic UV absorber coating on the plastic surface for the long-term protection against photochemical degradation. In column 1, lines 46-52, Mager discloses "because of the high surface area of titanium dioxide, cerium dioxide and zinc oxide nano-particles, however, there are frequent instances of photochemical damage and, ultimately, degradation of the matrix surrounding the inorganic UV absorbers. This then leads, among other consequences, to a loss of adhesion between coating and substrate (plastic)". In column 1, lines 53-54, Mager also teaches "this degradation can be prevented by using inorganic binders, especially sol-gel materials". Therefore, Mager teaches how to coat the inorganic UV absorber on the substrate by adding an adhesion promoter the mixture. In other words, Mager is silent regarding how to mix the inorganic UV absorber with the substrate.

Furthermore, Andrews merely teaches a polymer component with UV absorbing moieties which are permanently and covalently bonded to the polymer component via condensation, wherein the UV absorbers are hydroxyphenylbenzotriazole UV absorbers. In other words, Andrews fails to teach any **nano** titanium oxide mixed with the far infrared ray emitter for blocking UV light. In other words, Andrews is silent regarding any **nano sized** UV absorber made of titanium oxide. Furthermore, the instant invention discloses the plastic material is mixed with the ceramic powders and nano titanium oxide to form a raw material to make the liquid container with undergoing any covalently bonding via condensation.

Therefore, by modifying the transparent resin composition of Koo and the beverage energizing stick of Wey with the composition of Mager and hydroxyphenylbenzotriazole UV absorbers of Andrews, as proposed by the Examiner, it would only provide a container with the composition containing ceramic material and the

composition containing inorganic UV absorber coated on the container. In other words, even though combining the compositions of Koo, Wey, Mager, and Andrews, the container cannot be made of compound material mixed by plastic material, ceramic powders and nano titanium oxide as claimed in claims 21 and 29 of the instant invention.

The applicant respectfully submits that the plastic material, ceramic powders and nano titanium oxide are mixed to form a compound material as the raw material to integrally form the container body and the container cap of the liquid container. In addition, the degradation can be prevented when the nano titanium oxide is mixed with the plastic material and ceramic powders.

Regarding to claims 24 and 32, Koo, Wey, Mager, and Andrews are silent regarding the weight ratio of the far infrared ray emitter and the plastic material is 1:10,000. Koo, Wey, and Mager are silent regarding the weight of the nano titanium oxides and the plastic material is 1:10,000. The Examiner noted that Andrews teaches the plastic container or film stabilized by a compound or compounds of component may also optionally contain from about 0.01 to about 10% by weight. However, Andrews fails to teach the nano titanium oxides are mixed with the far infrared ray emitter by a weight ratio of 1:1. The applicant respectfully submits the weight ratio of the nano titanium oxides and the far infrared ray emitter is one of the important factors because the optimized amounts of the nano titanium oxides and the far infrared ray emitter mixing with the plastic material can be effectively formed a germ barrier of the liquid container.

Regarding to claims 28 and 36, Koo, Wey, Mager, and Andrews are silent regarding the far infrared ray emitter and the nano titanium oxide constitutes 5% by weight of the protective arrangement and water constitutes 95% by weight of the protective arrangement.

Watanable merely teaches, in column 23, lines 38-41, "To 980.4 g of the aqueous solution of basic titanium-tin chloride composite salt obtained in the step (a) was added 3019.6 g of water to be diluted to a concentration of 5% by weight in terms of $\text{TiO}_2 + \text{SnO}_2$ ". However, Watanable fails to teach the mixture of far infrared ray emitter and nano titanium oxide constitutes 5% by weight and water constitutes 95% by weight of said protective arrangement. In addition, the titanium-tin chloride

composite is not the same as the nano titanium oxide of the instant invention. Therefore, by combining Koo, Wey, Mager, Andrews and Watanable, the container can only form with the composition containing ceramic material and the composition containing inorganic UV absorber coated on the container without mixing the plastic material with UV absorber and ceramic material with the particular weight ratio of and water percentage constitution.

In any case, even combining Koo, Wey, Mager, Andrews and Watanable would not provide the invention as claimed -- a clear indicia of nonobviousness. Ex parte Schwartz, slip op. p.5 (BPA&I Appeal No. 92-2629 October 28, 1992), ("Even if we were to agree with the examiner that it would have been obvious to combine the reference teachings in the manner proposed, the resulting package still would not comprise zipper closure material that terminates short of the end of the one edge of the product containing area, as now claimed."). That is, modifying Koo, Wey, Mager, Andrews with Watanable, as proposed by the Examiner, would not provide a liquid container made of the mixture of plastic material, nano titanium oxide, and far infrared ray emitter integrally forming the raw material of the container body and the container cap of the liquid container. Therefore, the walls of the container body and the container cap form the germ barrier for keeping the liquid in the liquid container in a germ-free manner.

Applicant believes that neither Koo, Wey, Mager, Andrews nor Watanable, separately or in combination, suggests or makes any mention as recited in claims 21, 24, 28, 29, 32, and 36.

Applicant believes that for all of the foregoing reasons, all of the claims are in condition for allowance and such action is respectfully requested.

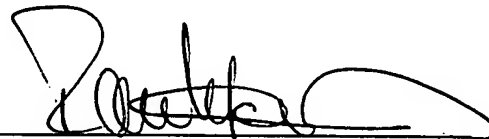
The Cited but Non-Applied References

The cited but not relied upon references have been studied and are greatly appreciated, but are deemed to be less relevant than the relied upon references.

In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration and withdrawal of the objection are requested. Allowance of claims 21, 24, 28, 29, 32, and 36 at an early date is solicited.

Should the Examiner believe that anything further is needed in order to place the application in condition for allowance, he is requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

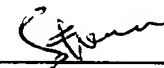


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